

Pragmatically Controlled Zero Anaphora

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Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistics Society (1986), pp. 95-107

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The Annual Proceedings of the Berkeley Linguistics Society is published online via [eLanguage](#), the Linguistic Society of America's digital publishing platform.

Pragmatically Controlled Zero Anaphora

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1. Introduction

The steps in the process of interpreting a sentence include those of (a) locating all of the *governing* words of the sentence, and (b) for each such *governor*, locating its lexical or phrasal *dependents*. From now on, instead of *governor* and *dependent* I will somewhat unhappily use the terms *predicate* and *complement*, the latter term taken to include subjects and adjuncts as well as what is more conventionally referred to as complements. Thus, for the predicate CRIED in the sentence THE BABY CRIED we find THE BABY as its one and only complement. For the verb DEMONSTRATED in the sentence SHE DEMONSTRATED THE PROCESS TO THE COMMITTEE we find SHE as one of its complements, THE PROCESS as a second, and TO THE COMMITTEE as the third.¹

Some of a predicate's complements are obligatory; others are optional. In general, that part of the process of interpreting a sentence that I am speaking of is finished when every one of the sentence's subconstituents can be identified as a complement, optional or obligatory, of some predicate (or as a constituent of some grammatical construction containing or contained in a predication), and all of the obligatory complements of the sentence's predicates have been located.

Whenever, in this search, we fail to find appropriate lexical or phrasal material standing for what we might take to be a predicate's obligatory complements, there are several possible explanations. For example, the predicate may be a part of a grammatical construction which independently provides an accounting for one of its complement slots: imperative sentences typically lack a subject, and a subject is missing in a controlled-subject environment. The languages modernly called "pro-drop" languages - such as Spanish and Japanese - allow the subject of essentially any sentence to be missing if its identity can be recovered from the context; and some languages systematically allow direct objects to be missing under some sort of condition of topicality (Huang 1984).

In English, except in certain kinds of highly restricted mini-genres, suggested by such directives as STORE IN A COOL PLACE, SHAKE BEFORE USING, KEEP OUT OF THE REACH OF CHILDREN, conditions for the omission of non-subject complements are limited to particular lexically defined environments. The most commonly discussed of these is the object slot for such verbs as EAT, READ, SING, COOK, SEW, and BAKE, verbs which can occur either with or without a direct object, but which are understood as

having, when used intransitively, an understood object roughly represented as the word STUFF.² In perhaps the earliest discussions of such words in the generativist tradition (Katz & Postal 1964), the authors proposed a deletion rule according to which either the word SOMETHING or the word IT was freely deletable. Katz and Postal's discussion was focused on the theory's need to have a NP constituent available at deep structure. Since semantic interpretation was built on deep structure representations, these surface intransitives had to be deep structure transitives in order for them to have objects capable of receiving the verb's *selectional features*.

It has occasionally been pointed out that a distinction is needed between what I will call *indefinite null complements* (INC) and *definite null complements* (DNC). With *definite null complements* the missing element must be retrieved from something *given* in the context; with *indefinite null complements* the referent's identity is unknown or a matter of indifference. One test for the INC/DNC distinction has to do with determining whether it would sound odd for a speaker to admit ignorance of the identity of the referent of the missing phrase. It's not odd to say things like, "He was eating; I wonder what he was eating"; but it is odd to say things like "They found out; I wonder what they found out." The missing object of the surface-intransitive verb EAT is indefinite; the missing object of the surface-intransitive verb FIND OUT is definite. The point is that one does not wonder about what one already knows.

In my own early discussion of the distinction (Fillmore 1969), I proposed that it was necessary to indicate, for each predicate, which of its complements could be represented as zero with an indefinite interpretation, and which could be represented as zero with a definite interpretation. The object of READ, thus, could be an indefinite zero, and the prepositional phrase complement of BLAME as in THEY BLAMED ME, could be a definite zero. Fraser and Ross (1970) accounted for cases of INC by means of a rule called Unspecified NP Deletion; Mittwoch (1971) suggested a rule of Definite Object Deletion as a way of accounting for the DNC interpretation of the intransitive use of FIND OUT.³

INC appears to include two distinguishable phenomena, one involving a semantic object of considerable generality, the other requiring the specification of various degrees of semantic specialization. To make this distinction clear, let us consider the verbs EAT and DRINK. In their more general intransitive uses, these verbs designate simply the physical activity of eating stuff or drinking stuff, as suggested by such sentences as

(1) WHEN MY TONGUE WAS PARALYZED I COULDN'T EAT OR DRINK.

Yet in sentences like (2) and (3),

(2) WE'VE ALREADY EATEN.

(3) I'VE TRIED TO STOP DRINKING.

each of these verbs has a more specialized meaning. In particular, EAT is used to mean something like 'eat a meal' - not merely 'eat something' and DRINK is used to mean 'drink alcoholic beverages'. We could list numerous further instances of specialization: McCawley (in lecture) has remarked on the specialization of intransitive BAKE, as in (4),

(4) I SPENT THE AFTERNOON BAKING.

where the missing object is taken to include breads or pastries, but not potatoes or hams.⁴

The indefinite null complement can be seen to have much in common with a syntactically present indefinite noun phrase: it is markedly indefinite, by which I mean that it is obligatorily disjoint in reference with anything saliently present in the pragmatic context. Adrian Akmajian, in conversation, once illustrated this point by describing a situation in which one person said, WHAT HAPPENED TO MY SANDWICH?, and another said FIDO ATE. That cannot be a well-formed conversation.

The cases of missing complements that are the focus of this paper (namely, DNC) are those with the potential of having a contextually definite interpretation, cases where the speaker's authority to omit a complement exists only within an ongoing discourse in which the missing information can be immediately retrieved from the context, and on condition that the omission is authorized by a particular lexical item or grammatical construction in the language. I will refer to complement slots capable of being unfilled under the INC or DNC interpretations as *indefinite omissible* and *definite omissible* respectively. The phenomenon of definite omissible complements has been referred to as *Definite NP Deletion* by Mittwoch (1971), as *Latent Object* by Matthews (1981), as *Contextual Deletion* or *Contextual Suppression* by Allerton (1982), and could be referred to in the language of Sag and Hankamer (1984) as *pragmatically controlled Model-Interpretive Null Anaphora*.

Some verbs have both definite omissible and indefinite omissible complements; one such verb is CONTRIBUTE. The *valence description* of this verb assigns three complements to it, those of the Giver, the Gift, and the Receiver. The word-specific semantic frame associated with this verb is one in which the Receiver is a fund or agency to which money or goods are given, the usual case being one in which such gifts are to be offered by more than one person. In describing the Gift complement as *indefinite omissible*, what I mean is that when the gift is not mentioned in a clause containing this verb, the nature or quantity of the gift is left as a matter of indifference: speaker and hearer need have no shared advance understanding of its identity or nature. Thus,

(5) I CONTRIBUTED TO THE MOVEMENT.

is equivalent to

(6) I CONTRIBUTED SOMETHING TO THE MOVEMENT.

However, in saying that the Receiver complement is *definite omissible*, what I mean is that when mention of the receiving fund or agency is not present in the sentence, its identity must be recoverable from the context. Thus, a sentence like

(7) I CONTRIBUTED FIVE DOLLARS.

can only be spoken in the middle of an ongoing interaction, to someone for whom the identity of the particular agency or fund is "given". The missing complement can be understood as something like 'to the movement that we've just been thinking about.' It is possible, of course, for *both* complements to be omitted, as in a sentence like

(8) I'VE ALREADY CONTRIBUTED.

in which the gift is merely left unspecified, the receiver is understood in the context.

2. Lexically Specific Nature of Omissibility

It would appear that the determinants of the omissibility phenomena are lexical, in the sense that individual lexical items will simply have to be represented as having certain of their complements marked as *indefinite omissible* or *definite omissible*. There are certain semantic groupings of predicates that allow the two kinds of complement omission, but a genuine semantic explanation does not appear to be forthcoming. In the case of DNC, no purely pragmatic explanation will help us either. No matter how clear the pragmatic context can be, there are only some words that have definite omissible complements. Thus, even if it is absolutely clear to everyone concerned that a particular door is in question, the remark

(9) *DID YOU LOCK?

cannot be used to "refer" to the door in question.

It is possible to find closely synonymous words, some of which permit definite null complements while others do not. To mention just one example, we can see that INSIST allows its complement to be absent under the relevant conditions, but many of its near-synonyms do not. Thus, a possible reply to WHY DID YOU MARRY HER? might be (10), but not (11) or (12).

(10) BECAUSE MOTHER INSISTED.

(11) *BECAUSE MOTHER REQUIRED.

(12) *BECAUSE MOTHER DEMANDED.

Other semantically related groups of lexical items for which some allow DNC and others do not are displayed below, the approved DNC expressions shown on the left.

She promised.	*She pledged.
	*She vowed.
	*She guaranteed.
I tried.	*I attempted.
They accepted.	*They endorsed.
They approved.	*They authorized.
They concurred.	*They acknowledged.
They agreed.	
She found out.	*She discovered.
I looked everywhere.	*I sought everywhere.
I'm waiting.	*I'm awaiting.
When did she leave?	*When did she vacate?
	*When did she abandon?
I protest.	*I oppose.
I object.	

3. Lexical Meaning

It would be misleading to say that the DNC phenomenon is restricted to particular lexical items and to stop there. For polysemous items, DNC may be restricted to particular senses. The verb GIVE is a particularly good example. Recalling the omissibility observations we made in (5) through (8) regarding the verb CONTRIBUTE, it might seem at first blush that the verb GIVE has exactly these same properties. Consider the sentences.

(13) I GAVE FIVE DOLLARS.

(14) I GAVE TO THE UNITED FUND.

(15) I GAVE AT THE OFFICE.

Where the direct object is missing, the understanding is indefinite; where the TO-phrase is missing, the understanding is definite. It happens, however, that in these sentences, GIVE is being used *in the meaning* CONTRIBUTE. It does not have these properties when used to designate gifts of chocolates to lovers or apples to teachers. If you were to overhear me saying something like

(16) I GAVE A COMPLETE SET OF BLS VOLUMES.

(i.e., omitting the TO-phrase), you might conclude that I was talking about my contribution to a departmental book drive, but you would know that I

could not be talking about a Valentine's Day present to my wife.

There are numerous cases of words with different senses, or with different valence possibilities, in which one sense of the verb, or one semantic type of complement, permits DNC and others do not. For example, the direct object of WIN can be the designation of either a Contest or a Prize. Thus, alongside of expressions like

(17) HE WON THE ELECTION / THE RACE / THE GAME.

where the direct object identifies the kind of competition, we also find expressions like

(18) HE WON THE FIRST PRIZE / THE GOLD MEDAL / THE BLUE RIBBON.

However, it is only in one of these senses that the direct object may be omitted: If someone says merely

(19) HE WON.

the understanding necessarily is that there is a contextually given competition in which he was the winner, not a contextually given reward of which he was the receiver.

In the semantically related word LOSE, analogous observations can be made: In this case, too, the complement type represented by a contest contributes to the interpretation of the intransitive case.

(20) HE LOST THE RACE / THE ELECTION / THE CONTEST.

(21) HE LOST HIS WALLET / THE KEY TO THE OFFICE.

But

(22) HE LOST.

(with no explicit object) can only be understood as referring to a type of competition.

A collection of further examples appears as follows:

They accepted my offer.
They accepted.

They accepted my gift.
*They accepted.

I applied for the job.
I applied.

They applied the bandage.
*They applied.

This applies to your case.
This applies.

They approached me.
They approached.

They approached the solution.
*They approached.

We were approaching the town.
We were approaching.

I approve of the decision.
I approve.

I approved the request.
*I approved.

She arrived at the summit.
She arrived.

She arrived at the answer.
*She arrived.

They closed the shop early.
They closed early.

She closed the drawer.
*She closed.

I forgot to fix it.
I forgot.

I forgot my keys.
*I forgot.

I forgot that she'd fixed it.
I forgot.

I heard that you resigned.
I heard.

I heard the song.
*I heard.

I insist on doing it.
I insist.

I insisted that it was wrong.
*I insisted.

I insist that she do it.
I insist.

They know that she resigned.
They know.

They know Louise.
*They know.

She left home.
She left.

She left this package.
*She left.

He noticed that she was blind.
He noticed.

He noticed the mouse.
*He noticed.

She opened the shop early.
She opened early.

She opened the envelope.
*She opened.

I remembered to fix it.
I remembered.

I remembered my keys.
*I remembered.

I remembered that he was there.
I remembered.

We returned to the camp.
We returned.

We returned to the task.
*We returned.

I see that they're here.
I see.

I see the rat.
*I see.

He volunteered to help you.
He volunteered.

He volunteered his sons.
*He volunteered.

4. Grammatical Type

In the examples we have already seen, a wide variety of grammatical constructions have been shown to host the DNC phenomenon. To summarize over the examples I have encountered, we see the phenomenon in (i) *Lexical NP Direct Objects* (as with such words as WIN), (ii) *Indicative THAT-clause Direct Objects* (as with KNOW, NOTICE, etc.), (iii) *Subjunctive THAT-clause Direct Objects* (as with INSIST) (iv) *Prepositional Phrase Complements of Intransitive Verbs* (as with ARRIVE, APPLY, and APPROVE), (v) *Prepositional Phrase Complements of Transitive Verbs* (as with BLAME and CONTRIBUTE), (vi) *Prepositional Phrase Complements of Adjectives* (as with SIMILAR, DIFFERENT, RELEVANT, APPLICABLE, etc.), (vii) *Marked Infinitive Phrase Complements of Verbs* (as with FORCE, BEGIN, and TRY), (viii) *Bare Infinitive Phrase Complements of Verbs* (as with MAKE and LET), (ix) *Marked Infinitive Phrase Complements of Adjectives* (as with EAGER and READY), (x) *Complex Adjectival Complements* (as with TOO-+-Adjective, etc.),⁵ (xi) *Prepositional Complements of Nouns* (as with the OF-Complement of COPY as opposed, say, to that of PHOTOGRAPH).

In addition to the above fairly easily stated contexts, it would seem that certain of the prepositions which have acquired the status of Verb Particles can be taken as capable of having definite null complements, as in sentences like

(23) WE STEPPED IN

(24) I WAS JUST WALKING BY.

(25) THEY WENT BACK OUT.

It is not, in my opinion, the particle in itself which has the omissibility feature, but a verb plus particle collocation in which the particle's complement has a Source or Goal interpretation. Thus it appears that even the verb BE allows a locative particle to have an omitted Source or Goal complement just in those contexts in which it is associated with the notion of Movement. Thus, we can say

(26) AS SOON AS WE WERE IN, ...

in the meaning 'as soon as we got in'.

In a context in which one person asks another by what means a particular journey was made, possible answers are:

(27)

(a) I DROVE.

(b) I WALKED.

(c) I DROVE MY BIKE.

(d) I TOOK THE BUS.

(e) I SWAM.

Here the understanding is paraphrasable as 'I drove there', 'I took the bus there,' and the like. The construction involved is one according to which a

verb-phrase indicating a manner of locomotion is used to express the notion of getting to a particular place by such means. In fact, most of these sentences would be bizarre if uttered in contexts which did not provide such a locative anchor.

5. Semantic Groupings

From the examination of near-synonyms which differ with respect to our feature, we must conclude that DNC phenomena are not *explainable* by semantic facts. Yet, from our observations of the senses of words which allow and those which do not allow definite null complements, we noticed that there appeared at least to be some commonalities across word meanings within particular semantic domains in the semantic roles of omissible arguments. We must therefore ask the question of whether particular meanings lend themselves more to accepting this feature than others.

In this connection it is particularly striking that the semantic role of Patient (or Theme) appears not to occur among the definite omissibles. That is, we found no cases of DNC with change-of-state verbs like BREAK, BEND, CREATE, DESTROY, MOVE, LIFT, and the like.

Allerton has proposed a semantic account, not of the difference between words (and word-senses) which allow definite omissible complements and those which do not, but of the difference between those which allow INC (his 'indefinite deletion') and those which allow DNC (his 'contextual object deletion'). He has this to say about DNC (Allerton 1975, pp. 214-215):

Contextual object deletion seems to apply particularly in the case of verbs where the meaning of the verb is somehow incomplete without mention of a PARTICULAR OBJECT.

Examples given in illustration of this description are FOLLOW, INTERRUPT, NOTICE, PULL, PUSH, etc. In the case of INC, he states:

Indefinite deletion seems to apply to verbs whose activity may be viewed as self-sufficient without an object.

And the examples he offers here include CLEAN, COOK, HUNT, SEW, etc. In offering a contrasting pair of semantically similar examples Allerton makes it appear that his account is somewhat circular. In comparing the INC verb TELEPHONE with the DNC verb RING UP (the latter as used in British English), he informs us that the former designates the activity of making a telephone connection, while the latter designates the more specifically goal-directed activity of calling a particular individual. Thus, with

(28) HE'S TELEPHONING.

we are to see somebody, out of context, dialing the telephone and waiting for an answer, whereas with

(29) HE'S RINGING UP.

we know that he is calling someone whom the immediate context has caused us to have in mind. It is difficult for me to believe that the difference in goal-directedness of these two verbs comes from independently knowable differences in their meanings. In any case, Allerton does not here give us a semantic account of the difference between words which do and those which do not take definite null complements.

As we look over the examples exhibiting DNC, we notice that they fall into a fairly small number of semantic categories. In one set of examples, the DNC is taken to be the Destination or Point of Origin with respect to some journey. This is true of LEAVE, GO, and TAKE, for which, when the complement is missing, it indicates what we might call the point of origin, and others, such as COME, ARRIVE, BRING, and ENTER, where a missing complement is taken as representing the destination.

In a great many cases, verbs having to do with causing, inducing, or allowing someone to perform an action, allow the desired action to be left unmentioned. Consider

- (30) (a) HE DARED ME.
 (b) THEY MADE ME.
 (c) THEY DIDN'T LET ME.
 (d) I ASKED HIM.
 (e) I ORDERED THEM.

The semantic generalization we need must involve more than such notions as causation and enablement, since omissibility seems to be limited to cases in which a *social act* of some sort is markedly involved. Verbs like CAUSE, GET and HAVE, which do not participate in DNC, have more general meanings.

It would appear that most instances of aspectual complementation allow DNC. The event or action complement can go unmentioned in a setting in which it is contextually given. This is true of START, STOP, CONTINUE, FINISH, RESUME, STAY, and BEGIN.

There may be a great many minor regularities in the semantics of lexical items allowing DNC: the semantic connections between WIN and LOSE have already been pointed out; and we might observe similar connections between FORGET and REMEMBER, SAME and DIFFERENT, CLOSE and OPEN, and many others.

6. Conclusions

The relevance of the phenomena observed in this descriptive essay to a larger view of realized and unrealized complements, and to questions of anaphora, are the concern of a larger study. For the moment I draw attention to an issue in lexical semantics concerning the notion of *polysemy*. Evidence

we have seen here makes it clear that the drive toward monosemy at all costs has a natural stopping place. A common working principle in lexical semantics is that, to whatever extent possible, the varying *uses* of a word should not be seen as exemplifying its varying *meanings*: rather, the differences should be explained, wherever possible, by some auxiliary accounts of usage, or pragmatics, or facts about the real world, or the reasoning process, or the like. From the reality that omissibility phenomena of the sort discussed in this paper are tightly connected with specific senses of specific words, it seems unavoidable that (at least in these cases) closely related word senses must be listed separately in lexical entries.

NOTES

- 1 It will be noticed that *complement* as used here is distinct from the notion *argument*. The former but not the latter includes the preposition in this case.
- 2 It is usually said that the missing element is the word SOMETHING but for a sentence like I SPENT THREE DAYS COOKING, a paraphrase of the form I SPENT THREE DAYS COOKING STUFF sounds more natural than I SPENT THREE DAYS COOKING SOMETHING.
- 3 The INC phenomenon discussed here, by the way, appears to be quite distinct from the identity-of-sense anaphora process described for Spanish as *Indefinite Object Drop* in Campos 1986.
- 4 Michael Silverstein, in discussion after the presentation of this paper, pointed out that this case (and perhaps other cases) of INC are not well described as clear instances of polysemy, since it is quite possible to say something like AS LONG AS WE'RE BAKING ANYWAY, WE MAY AS WELL DO UP THE HAM NOW TOO.
- 5 Ordinarily, if I describe something as TOO EXPENSIVE, what I mean is that it is too expensive to buy; NOT COLD ENOUGH might be said of something that's not cold enough to drink. In all such cases, the content of the complement phrase must be something given in the pragmatic context if it is to be omitted.

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